

# A Comparative Study of the Influence of Infused HIV and AIDS Education on Students' HIV and AIDS Awareness in Ainamoi and Sigowet Divisions, Kericho County, Kenya

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## ABSTRACT

HIV and AIDS pandemic is a global health concern which has been given a multi-sectoral approach to combat it. In Kenya, the Ministry of Education has adopted HIV and AIDS policy in which one of the strategies of achieving HIV and AIDS awareness among school-going youth is to have the infused HIV and AIDS education in the formal curriculum subjects. However it has not been established through empirical investigation whether or not the HIV and AIDS education has had an influence on the awareness of in-school youth in rural and urban areas differently. Therefore, this study comparatively investigated the influence of the infused HIV and AIDS education on students' awareness in public secondary schools of urban Ainamoi and rural Sigowet divisions in Kericho County. The objectives were to compare the influence of the infused HIV and AIDS education on students' mastery of HIV and AIDS facts, behaviour change among students and attitudes towards infected people. The study was informed by Holmes' problem-solving approach, Becker's health belief model, Bandura's self-efficacy and social learning theory and Green's Precede-Proceed model of health behavior. The study adopted a comparative research design whereby a rural sample and an urban sample of form four students selected from a target population of 2840 students in public secondary schools in Kericho county were compared. Stratified random sampling was used to select respondents from purposively sampled schools. Data was collected using questionnaires and an interview schedule whose validity was enhanced through a pilot study. The split-half reliability test was done to determine the reliability level of the data collection instruments. Data was presented as tabulated frequencies and percentages. The chi-square statistic was used to analyze data at a 0.05 level of confidence. Interview responses were obtained as qualitative data and were reported verbatim. The results of the study showed that there were significant differences between students in rural and urban schools with regard to knowledge of HIV and AIDS facts, level of behavior change and attitudes towards HIV and AIDS infected people. Students in urban secondary schools were found to be better informed about HIV and AIDS facts; they had a more positive attitude towards infected people and exhibited a higher level of behavior change compared to students in rural secondary schools. The study recommends a revision of the curriculum to give HIV and AIDS education a multi-faceted approach including co-curricular activities and seminars for parents.

## Background to the Study

HIV and AIDS related illnesses have claimed many lives in recent years, and pose a major threat to global health (Jackson, 2002). In Kenya the national policy on HIV and AIDS has recognized that the epidemic is not just a health problem, but also a development crisis that threatens the very fabric of national existence (World Bank 2003). According to UNAIDS (2004), Sub-Saharan Africa is home to some 25.4 million people living with HIV and AIDS. Just under two thirds of all people living with HIV and AIDS are in the region. More than three quarters of all women living with HIV and AIDS are also found in sub-Saharan Africa. These figures have since dropped. The total number of people living with HIV and AIDS now stands at 22.5 million with 61% being women (Daily Nation, 2011). This drop in figures has not come below the 20% mark to be considered satisfactory.

In Sub-Saharan Africa, the UN has declared that HIV and AIDS is more serious than all other problems in the region (Gechuhi, 1999). The prolonged sickness and death of those infected exacerbates and deepens existing poverty through the direct costs of illness and loss of labour. The death of young adults of child-bearing age has increased the dependency ratios in poor communities and left many children orphaned. Global figures indicate that at least ninety five percent of HIV and AIDS orphans live in Africa (DFID, 2001). NASCOP (2005) notes that the infection rates continue to increase and the influence will continue to be severe, unless serious intervention measures are taken.

There is a disparity in HIV and AIDS prevalence between rural and urban areas in Kenya, with a health survey reporting that the risk of HIV and AIDS infection among urban residents was higher (10%) compared to rural residents (6%) (MOH, 2009). By 2009, estimates indicate that 1.080 million adults aged 15-49yrs were infected with HIV and AIDS with an overall prevalence in youth of 5%. Of these, 670,000 lived in rural areas compared to 410,000 in urban areas of Kenya (MOH, 2009). The greatest burden of HIV and AIDS infection in Kenya is in the rural population which makes 75% of the total population. On the basis of this information, a comparative study of the HIV and AIDS awareness status between youths in a rural area and those in an urban area was considered a worthy undertaking. The first case of HIV and AIDS in Kenya was diagnosed in 1985 and since

then the numbers have continued to grow exponentially. Table 1 provides estimated numbers of people living with HIV and AIDS from 2006 to 2010.

**Table 1 Estimates of People Living with HIV and AIDS and the Newly Infected in Sub-Saharan Africa: End of 2006, 2008 and 2010**

Period	Adults and children living with HIV (Million)	Adults and children newly Infected with HIV (Million)	Adult prevalence (%)	Adult and Child Deaths due to AIDS (Million)
End 2006	39.5	4.3	7.3	3.0
End 2004	25.4	3.1	7.4	2.3
End 2002	24.4	2.9	7.5	2.1

Source: December 2010 Global summary of AIDS Epidemic update, UNAIDS (2010,42).

Table 1 shows a significant increase in the number of people living with AIDS over the four years. In 2008 an estimated 3.1 million people were newly infected with HIV and AIDS in Sub-Saharan Africa. By the end of 2010 the number had increased by 1.2 million. Whereas adult prevalence seems to have stabilized in recent years this does not mean the epidemic is slowing. On the contrary the epidemic is increasing as indicated by the large numbers of people being newly infected with HIV and are dying of AIDS related illnesses. The majority of people infected with HIV and AIDS are those who are relatively young aged between 15-39 years. Women are reported to be more vulnerable than men. For women in the 15 –19 age range HIV and AIDS infection rates are five times those of men. In the 20 –24 age bracket it is three times that of men (World Bank, 2003).

The infused HIV and AIDS education partly seeks to inform students about these figures and facts. These facts and figures make up a section of HIV and AIDS curriculum content that is infused in subjects like geography and mathematics. Then appropriate plug-in points are easily found in the topic of ‘statistics and statistical methods’.

The challenge of stigma of people living with HIV and AIDS is also addressed by the infused HIV and AIDS curriculum. Stigma manifests itself variously. For instance, there is a prevalent tendency in most African societies to regard people with HIV and AIDS as ‘dangerous and untouchable’ and the infection a manifestation of their inner ‘moral evil’ (Helman, 1994). In an interview with 433 adults, mainly medical personnel in New York City, their perception of sufferers from serious diseases, including HIV and AIDS was such that HIV and AIDS sufferers were seen as social deviants who are responsible for having this disease. In Namibia it was found that there was a common belief that those who are infected will knowingly infect others, either deliberately through some malicious motive, or as a result of their inability to abstain (DFID, 2001). These prejudices and fears about HIV and AIDS sufferers undermine attempts to identify, treat and control the disease and to offer the care and compassion they deserve. The infused HIV and AIDS education tackles the issue of stigma since students learn how to manage HIV and AIDS infected persons, medical care for People Living With HIV and AIDS (PLWHA), the role of counseling, moral, spiritual and material support for PLWHA.

The socio-economic effect of HIV and AIDS is also infused in the curriculum by KIE. Students are expected to know, for instance, that if the spread of HIV and AIDS goes unchecked, there will be few people to educate in future, as demand for education will decline (ROK, 2003). This is because few children will be born if young parents are infected; those born may end up dying before the school going age; children of school going age may fail to enroll due to poverty, being orphaned or stigmatized because of having an infected parent or relative; or they may drop out to take care of sick family members or, to support their families (DFID, 2001). It is therefore expected that this cause-effect relationship is explained to students by teachers.

HIV and AIDS would also cause a rise in the demand for higher number of trained and skilled personnel because the disease is taking its toll on adults in all professions (ROK, 2003). The supply of teachers would also be reduced by HIV and AIDS through high mortality of trained teachers reduce productivity of such teachers as teaching activities become erratic, and even schools close for lack of teachers and declining population (DFID, 2001).

There is need, therefore, for a multi-faceted approach in taking a proactive stance to check the spread of HIV and AIDS. Indeed the Government of Kenya realizes that partial solutions in the fight against HIV and AIDS do not result in successful or effective interventions (ROK, 2004). Education has been identified as a powerful tool in the prevention and control of HIV and AIDS (Jackson, 2002). The school situation is an ideal medium for dissemination of HIV and AIDS education. There is need to influence students regarding sexual and reproductive health, including HIV and AIDS, so that they grow up with reduced risks of infection. This requires that the teachers have appropriate sensitization, training, support and behaviour change materials to make HIV and AIDS prevention efforts with students effective.

In its HIV and AIDS education programme, the Ministry of Education embarked on incorporating HIV and AIDS education into the curriculum. Towards this end, the strategy of infusion of HIV and AIDS education into the curriculum was implemented in year 2003. Teachers have been in-serviced to equip them with the necessary skills for this infusion. The programme is now more than nine years old, according to the time frame proposed by the National Action Plan (ROK, 2003).

Kericho County, which is the geographical focus area for this study is in Rift Valley region which was recently ranked fourth in HIV and AIDS prevalence among adults aged 15-49 years (KDHS, 2003) and this position has not changed much. Furthermore rural-urban variations in HIV and AIDS prevalence have been reported. Clearly, a large proportion of people still do not understand the dynamics of HIV and AIDS for lack of awareness. The challenge is therefore to embark on massive education campaigns (ROK, 2008)

It is against this background that this study sought to investigate the influence of the implementation of the infused HIV and AIDS education curriculum on students' awareness by comparing selected secondary schools in rural Sigowet and urban Ainamoi of Kericho County

### **Statement of the Problem**

The fight against the spread of HIV and AIDS has been given a multi-sectoral approach (UNESCO,2002;ROK,2003;Jackson,2002:ROK,2005).The approach adopted by the education sector in Kenya is spelt out in the Education sector policy on HIV and AIDS whereby Aids Control Units(ACUs) are earmarked as platforms for dissemination of HIV and AIDS information(MOE,2004).Schools are identified as one of the ACUs. In schools, the policy provides for the infusion of HIV and AIDS education in the formal subject curriculum. It was hoped that this strategy would have a positive influence on students' HIV and AIDS awareness by increasing their knowledge of HIV and AIDS, enabling them change behavior and develop positive attitudes towards people infected with HIV and AIDS. However, it has not been established through empirical investigation whether or not HIV and AIDS education has influenced the awareness of in-school youth in rural areas and urban areas differently. A behavioral surveillance survey (BSS) by NASCOP in 2003 that partly addressed this issue was too broad as it included out-of –school youth, policemen, men at work sites and even female sex workers. It used a Kiswahili questionnaire as the only data collection method and did not bring out rural-urban comparisons. This study sought to address these concerns through a comparative investigation of the influence of the infused HIV and AIDS education on students' HIV and AIDS awareness in rural Sigowet division and urban Ainamoi division in Kericho County.

### **Purpose of the Study**

The purpose of this study was to comparatively investigate the influence of the infused HIV and AIDS education on the level of awareness among secondary school students in Ainamoi and Sigowet Divisions of Kericho County.

### **Objectives of the study**

- i. Comparison of the influence of infused HIV and AIDS education on students' mastery of facts among secondary school students in Ainamoi and Sigowet divisions.
- ii. Comparison of the influence of infused HIV and AIDS education on students' behavior change among secondary school students in Ainamoi and Sigowet divisions.
- iii. Comparison of the influence of infused HIV and AIDS education on students' attitude towards people living with HIV and AIDS in Ainamoi and Sigowet divisions.
- iv. Suggest measures that can be put in place to make HIV and AIDS education more effective in promoting HIV and AIDS awareness among students in secondary schools.

### **Significance of the Study**

The findings of this study would help policy makers in the Ministry of Education as they seek ways of making HIV and AIDS education more effective in both rural and urban secondary schools. Equally in various socio-economic settings, it was hoped that the findings would expose the disparities that might be existing between rural schools and urban schools with regard to the infusion of HIV and AIDS education curriculum.

The findings of this study and the recommendations thereof might assist school administrators and teachers to improve the pedagogical strategies they use in implementing the infused HIV and AIDS education curriculum in their schools. The study hoped to identify the socio-economic dynamics that have an influence on the effectiveness of the infused HIV and AIDS education.

## **LITERATURE REVIEW AND THEORETICAL FRAMEWORK**

### **Global Perspective of HIV and AIDS**

Human Immuno Deficiency Virus (HIV) belongs to an unusual group of viruses called 'retroviruses' that include leukemia viruses in humans, cats, cattle and some other animals. HIV is related to simian (monkey) immunodeficiency viruses (SIVs). HIV has probably mutated from viruses found in monkeys and apes. It is not clear when SIV crossed over to humans but it was probably about 60 to 70 years ago (Jackson, 2002).It took over two decades before HIV and AIDS was discovered in humans and the disease is now better understood. However there is debate on the origin of HIV and AIDS in human beings(UNAIDS 2004).

Various views have been presented on its origin in human beings. For instance origin of HIV in human beings has been attributed to God as punishment for sexual promiscuity. Alternative opinion suggests that it is the biological warfare experiments that released the virus into the global population, either deliberately or accidentally. It is also thought that polio vaccines, widely given in Central Africa in the 1950s and 1960s using monkey serum, could have been contaminated with SIVs (Jackson, 2002). Another argument is that people hunting wild monkeys and chimpanzees for food, or keeping them as pets, could have been bitten and acquired the virus that way (Bennell, Hyde & Swainson, 2002).

The foregoing clearly indicates that there is no agreement as to its genesis. Whatever its origin, this virus is dangerous to human existence because at a critical stage, its presence in the human system results in a health condition, the Acquired Immune Deficiency Syndrome (AIDS) which to date has no cure. HIV and AIDS related ailments indeed account for a huge proportion of deaths of the modern age and the condition is a major threat to global health (UNAIDS 2004).

The gravity of the HIV and AIDS situation in Africa has been reported. The global trends in infection rates show that 75 percent of HIV and AIDS deaths occur in Africa, including 90% of all children dying from the condition (Helman, 1994). Sub-Saharan Africa, where Kenya is situated, is home to just over 10% of the world's population, and almost two thirds of all people living with HIV and AIDS (UNAIDS 2004). Moreover, the number of orphans has escalated due to HIV and AIDS which has killed one or both parents of an estimated 12 million children in Sub-Saharan Africa and far too many of these orphans are not properly cared for (UNAIDS, 2004). People living with HIV and AIDS are now over 2 million of whom 600,000 are children (Ministry of Health, 2005).

It is against this background that efforts have been made at various levels to adopt a proactive approach towards combating the spread and prevalence of HIV and AIDS, and immense resources have been committed by both governmental and non-governmental institutions. In response to the United Nations appeal to governments to create national strategies for HIV and AIDS control the Kenya government adopted a multi-sectoral approach to this matter (ROK, 2000). Accordingly, the education sector developed the Education Sector Policy on HIV and AIDS to articulate the processes of implementing HIV and AIDS education as well as the rights and responsibilities of all stakeholders in education.

#### **Education Sector Policy on HIV AND AIDS**

In July 2002, the United Nations General Assembly Special Session on HIV and AIDS (UNGASS) declared a commitment on HIV and AIDS and set a target of reducing infection among 15 –24 year olds by 25% globally by the year 2010 (Ouko, 2005). Governments were thus challenged to develop and implement national strategies to provide a supportive environment for orphans and children affected by the scourge by 2004. The UNGASS declaration stressed the need to develop life skills required among young people to reduce risk and vulnerability to HIV infection.

Consequently in September 2004, the Ministry of Education published a policy articulating the rights and responsibilities of persons directly or indirectly involved in education. This includes learners, their parents and caregivers, teachers, administrators, support staff and civil society.

The MoE's (2004) HIV and AIDS policy framework is developed on five main tenets:

- i) Every person has a right of access to education and information, regardless of their actual or perceived HIV and AIDS status.
- ii) No individual shall be discriminated against or be subjected to unfair labour practices with regard to recruitment, appointment, promotion, training and benefits and that HIV testing as a requirement for any of the above is prohibited.
- iii) Individuals shall have a right to privacy and confidentiality regarding their health and that revelation of sero-status is only encouraged within a safe, supportive and accepting environment.
- iv) For safety in workplace and learning institutions, there shall be an infection control First Aid Kit and that there shall be zero tolerance of sexual harassment, abuse or exploitation, access to holistic care, treatment and support in line with available resources and that people living with HIV and AIDS (PLWHA) shall be involved in preventive measures at all levels.
- v) While the education sector will be responsible and accountable for implementation of this policy, it will at all times seek to develop effective partnerships to enable the success of its implementation (ROK, 2004: 10).

The framework underscores the role of Aids Control Units (ACU) at all levels. Learning institutions are identified as major Aids Control Units. As ACU, schools are expected to facilitate in-service training of teachers so that they acquire skills of protecting themselves from infection, to implement the HIV and AIDS curriculum, and to deal with the effects of the scourge in a positive, effective way. In this regard, heads of education institutions are responsible for introducing and implementing this policy (Ouko, 2005). The education sector policy on HIV and AIDS provides for the incorporation of HIV and AIDS education in the curriculum. It identifies formal education set-up as an effective medium of delivery to students (ROK, 2004).



### Content of HIV and AIDS Curriculum

The Kenya Institute of Education (1997) developed a curriculum of AIDS education in secondary schools. It had been planned that the curriculum would be systematically implemented through the AIDS lessons that had been included as part of syllabi and timetabled to cover one lesson per class per week. A national assessment survey reported, among other issues, that the curriculum was not meeting the needs of students fully, and needed to respond to the changing society by incorporating emerging issues such as HIV and AIDS pandemic, drug abuse among others. It was decided that HIV and AIDS education would be infused in other subjects and in co-curricular activities.

For example, the KIE (2002) rationalized curriculum, points out that in history and government syllabus, HIV and AIDS and other contemporary issues will be discussed in the topic 'development and challenges in Kenya and Africa since independence'. This approach has been used in other subjects. According to KIE, (2002), the following is a summary of the content of HIV and AIDS education curriculum infused in the formal curriculum.

- i) Youth and sexuality – Students learn about physical changes in boys and girls during adolescence, psycho-social changes and how to cope with these changes. This content can be infused in Christian Religious Education, English Literature and Biology.
- ii) Responsible behaviour – Students are cautioned about wrong sexual relationships, commercial sex and its devastating consequences; homosexuality and lesbianism, consequences of wrong sexual behaviours, healthy boy-girl relationship and courtship and marriage in the context of HIV and AIDS. Christian Religious Education and English Literature are suitable subjects into which this content can be infused.
- iii) Management of leisure time – Types of leisure, choosing leisure activities, misuse of leisure, religion and its activities, culture and leisure, drugs and drug abuse, Leisure and work are major Christian Religious Education topics in the curriculum.
- iv) Facts about STDs and HIV and AIDS – Causes of STDs, their transmission, signs and symptoms, modes of transmission of HIV and AIDS. Biology would discuss this topic relevantly. Geography will give it the emphasis of HIV and AIDS spatial distribution while Mathematics could give it the approach of statistical analysis of HIV and AIDS infection figures.
- v) Prevention and Control of STDs and HIV and AIDS – Ways of preventing HIV and other STDs, management of HIV infected persons; Medicare for PLWHA, the role of counseling, moral, spiritual and material support for PLWHA. Biology, Geography and Christian Religious Education will appropriately infuse this content
- vi) Internal Body Defense – The body's immune system, types of immunity, effects of HIV on body's immune system and how HIV develops into AIDS. The working of antigen – antibody response, Biology is the most relevant subject of infusion for this content.
- vii) Religious and cultural beliefs and practices and HIV and AIDS, including circumcision, marriage, birth, tattooing and other body cuts, Christian Religious Education is the most appropriate subject into which this content is infused.
- viii) Communication skills, importance of communication in managing and controlling HIV AND AIDS; the relationship between communication and counseling (Guidance and Counseling) sessions will be useful with regard to this content.
- ix) Effects of HIV and AIDS infection on individuals, family, society, economy and population; referral services. All humanity subjects, that is, Christian Religious Education Geography and History may discuss this content satisfactorily.
- x) The infused HIV and AIDS curriculum also seeks to sensitize students on how poverty influences spread of HIV and AIDS in Kenya. Reports indicate that over 50 percent of the population lives below the poverty line (Economic Survey, 2000), with an annual basic income of less than \$ 300. Some of the poverty –related factors that contribute to the rapid spread of HIV and AIDS include: lack of access to schooling, premature entry to the labour market, childhood marriages, sexual exploitation, uncertain or inadequate shelter and lack of access to health services (Kleintjes et al. 2004).

It is evident from the HIV and AIDS education content described above that informal and erratic for a may not adequately and effectively help in disseminating the knowledge, skills and attitudes that in-school youth require to be able to prevent HIV and AIDS infections and spread. Since these youths are in school longer than they can be elsewhere, the formal school system affords them adequate time to learn HIV and AIDS education. The learning experiences will make them embrace desirable HIV and AIDS preventive behavior (Bandura, 1977).It can therefore be argued that effective implementation of the infused HIV and AIDS education will enable students to acquire extensive HIV and AIDS awareness. Consequently, desirable HIV and AIDS preventive behavior will be shaped.

### **Formal Education as a HIV and AIDS Preventive Strategy**

Formal education has in recent years been embraced as the key avenue for the HIV and AIDS awareness and advocacy (Bennel, et al. 2002). In Benin, investigation into the HIV and AIDS education communication research project is reported as yielding result on student's knowledge, attitude and practices relevant to HIV and AIDS. The report of the working group in this project underlined the importance of informed, convinced and committed leadership in programmes of social change and development, including HIV and AIDS prevention, care and de-stigmatization (ADEA, 2004).

The relevance of this report to this study lies in the logical conclusion that the teachers' leadership role in HIV and AIDS education is underscored. A committed and informed teaching force is required to successfully implement the infused HIV and AIDS education. Furthermore, future teachers shall come from among the students of today. If they are taught well on HIV and AIDS they shall become the informed and committed teachers of tomorrow who shall make the HIV and AIDS efforts sustainable and successful.

The majority of infected people in Kenya are young, considering that the population structure of Kenya has over 50% people below 16 years of age (ROK, 2004). This means that the majority of education clients in secondary schools are within the HIV and AIDS vulnerable category and therefore very susceptible to infection. Therefore, if the spread of HIV and AIDS is not checked all strategies geared towards providing education for all will not be as successful as desired. With regard to this issue the ROK (2003) observed that:

"HIV and AIDS has negative effects on education...with national  
HIV and AIDS prevalence rate of 10%...the epidemic threatens  
to wipe out the achievements we have made in the past and puts  
serious road blocks on our way into the future."

The government further noted that, among the works in progress is that a policy was being developed on how HIV and AIDS education would be incorporated in the school curriculum. The suitability of the school setting as a forum for promoting HIV and AIDS awareness among the youth has been emphasized by Kleintjes et al (2004), who point out that effective prevention programmes should target social units which give meaning and direction to human life to enable children and adolescents consistently choose to engage in safe sexual practices. The school, the researcher avers, is one such appropriate social unit.

The learning environment in school has been found to provide a stable social relationship between teachers and pupils, which exert positive influences on behaviors of adolescents. This realization has even presented development partners with the challenge of utilizing the education system for effective HIV and AIDS prevention (Bennell, Hyde & Swainson, 2002).

A development partner's report by the World Bank (2005) recommends that health and safety messages be incorporated into education programmes in ways that produce additional demands for more effective inter-sectoral collaboration, and calls for skills and training that are not conventionally available to education authorities. It is therefore evident that the formal school set-up has widely been heralded as potentially effective in disseminating HIV and AIDS education.

### **Ways of Evaluating the Influence of Instructional Programmes**

Anderson (1956) presents a number of strategies that have been found useful in evaluating outcome of any instructional program. Content analysis of pupils' records of their activities is one of these strategies. Questionnaires filled in by students, concerning the content of instruction they have undergone are said to be useful in the total evaluation picture. Checklists of activities are also strong indicators of the extent to which instruction has been implemented. Rating scales constructed by the teacher enables students to rate the quality of work done. In this study the researcher intends to use a questionnaire in which a rating scale has been integrated with items seeking data on HIV and AIDS education and how it is offered in classroom.

### **HIV and AIDS Situation in Rural and Urban Areas**

The HIV and AIDS situation in rural areas is at variance with the situation in urban areas. HIV and AIDS prevalence is reported to have hit the peak among urban residents in the 1990s and has been dropping at a fast rate. The rural areas on the other hand experienced peak prevalence later and have dropped at a slower rate (ROK, 2005). By 2009 estimates indicate that 1.1 million adults aged 15-49 years were infected with HIV and AIDS. Of these, 670,000 lived in rural areas compared with 410,000 in urban areas of Kenya (MOH, 2009).

Scholars and statisticians have concluded that since 75% of Kenya's population is categorized as rural, the greatest burden of HIV and AIDS infection is in the rural population. Furthermore, the propensity to seek VCT services has been seen as an indicator of positive behaviour change. Few young school going people prefer to become VCT clients. It is reported that of all VCT clients, those aged 15-19 years (secondary school going age) make-up only 10% of those who are VCT clients. This scenario justifies the identification of rural areas as a priority area for the expansion of VCT services so as to improve access to VCT, (ROK, 2010). It is clear that rural-urban disparities exist. A comparative study of the HIV and AIDS awareness status in a rural and urban area was seen to be logically feasible. This study sought to investigate the influence of infused HIV and AIDS education on students' level of awareness in a rural area compared to an urban area.

### **HIV and AIDS Behavioural Research in Kenya.**

There seems to be very few studies done to investigate the influence of HIV and AIDS education on students' awareness as indicated by 'knowledge of HIV and AIDS facts', 'behaviour change', and 'attitudes towards infected people'. However, a study by NASCOP (2003) stands out significantly. It was a behavioural surveillance survey carried out on a nation-wide scale. Data was collected from seven populations perceived to be at high risk of HIV and AIDS infection. These were youth both in and out of school, men in large work sites, policemen, matatu drivers and touts, 'bodaboda' cyclists, women in low income communities and female sex workers.

The study found out that nearly all youth surveyed had heard of HIV and AIDS. More than half of the youths knew the difference between HIV and AIDS compared to those who were out of school. But less than half of them knew of the window period in HIV and AIDS development. Less than a third of the youth in the survey had comprehensive knowledge of HIV and AIDS. The survey found out that in-school youth in rural areas were more likely to have had sex (48%) than their urban counterparts (42%). Less than a third of in-school youth who had ever had sex had taken an HIV test. But at least two thirds of youths that were surveyed expressed willingness to use VCT services if they were made available. It was the researcher's view that these findings be interrogated through a new study. This is because over time socio-economic dynamics may yield different results.

Moreover, some weaknesses were identified in this survey; it was too broad as it was a nation-wide undertaking involving many populations. It used a questionnaire written in Kiswahili as the only method of collecting data. An interview as a complementary data collection method could have made the findings more reliable. Besides, Kericho county was not included as one of the study sites. This study therefore sought to fill this gap by comparing in-school youth in rural Sigowet with those of urban Ainamoi on the extent to which HIV and AIDS education has influenced on their HIV and AIDS awareness.

### **Theoretical Framework.**

In the quest to understand how a comparative study on the influence of infused HIV and AIDS education may have influenced on student's awareness in rural Sigowet vis-à-vis urban Ainamoi in Kericho County, four theories have been employed, namely:

- i) Holmes' (1965) problem-solving approach
- ii) The Health Belief Model (Becker, 1964)
- iii) Bandura's Self-Efficacy and Social Learning theory
- iv) Green's (1982) Precede-Proceed model of health behavior.

### **Holmes' Problem-solving Approach**

The problem-solving approach is a recommended scientific method of inquiry in comparative education which asserts that research begins with a problem (Holmes, 1981). In comparative education, a problem is identified, analyzed and policies proposed as solutions, the outcome of which is predictable (Holmes, 1965). Holmes' problem-solving approach has four steps, namely: problem selection and analysis; formulation of policy proposals; identification of relevant factors and prediction (Holmes, 1965).

This comparative study on the influence of infused HIV and AIDS education on student's awareness conforms to Holmes problem-solving approach. The problem identified is that rural schools have not been compared with urban schools to establish the extent to which infused HIV and AIDS education has influenced on students' awareness. The factors that may influence the outcome (awareness) are social, environmental (rural versus urban), technological (teaching methods), economic (instructional materials), among others. Policy recommendations have been proposed and their expected outcomes elaborated.

### **The Health Belief Model**

In Becker's Health Behavior Model, the likelihood that a person will follow a disease preventive behavior is influenced by:

- i) Perceived susceptibility, that is, a person's judgment of risk of contracting the disease;
- ii) Perceived seriousness, that is, the threat and influence on lifestyle;
- iii) Perceived benefits and feasibility of taking preventive action;
- iv) Cues to action such as a friend's death which will trigger action towards a change in behavior (Becker, 1964).

This theory was considered relevant to this study because HIV and AIDS condition is a health issue. In the effort to make youths embrace desirable HIV and AIDS preventive behavior, the infused HIV and AIDS education seeks to sensitize school-going youth about their high susceptibility to contraction of the HIV and AIDS condition because at their age they are sexually active. Infused HIV and AIDS education also provides teachings on ways of preventing the contraction of HIV and AIDS condition and the benefits of embracing preventive behavior, and this is in keeping with the health belief model. In addition, deaths caused by opportunistic ailments related to HIV and AIDS have occurred in almost every wider family and this, arguably, has served to trigger action towards a change in behavior among surviving family members and the community.

### Self-Efficacy and Social Learning Theory

Bandura's Self-Efficacy and Social Learning theory also explains how health behaviors develop and suggests how they may be modified (Bandura, 1977). The theory is anchored on the process of learning, the interactions between personality and the information received and learning by observation. The relevance of this theory to this study lay in the fact that it emphasizes learning by observation. The infused HIV and AIDS education uses various pedagogical approaches. Students are given opportunity to observe diagrams, photographs, statistical tables and graphs, films and slides based on aspects of HIV and AIDS such as prevalence rates, signs and symptoms of blown-up HIV and AIDS condition and effects of HIV and AIDS in society and the economy.

### Green's Precede-Proceed model of Health Behaviour

Green's Precede-Proceed model illustrates a process which bridges the gap between health education and health practices (Green & Stain, 1982). He describes health education as any combination of learning experiences designed to facilitate voluntary adaptations of behavior conducive to health. He explains that health education should facilitate motivational process in a person so as to take the information and do something with it to keep oneself healthy by avoiding behaviors that are harmful and by forming habits that are beneficial.

In this model, 'precede' is acronym for predisposing, reinforcing and enabling factors which should be a diagnosis of the requirements of any program on health education. This diagnosis is done by examining the quality of life of the target group. Predisposing factors are identified as attitudes, beliefs, values and perceptions, which are found to facilitate or hinder motivation for behaviour change. Enabling factors include skills and knowledge, legislation, social support and other barriers created by the society, that will help or influence people to change behavior. Reinforcing factors include providing feedback, facilitating adherence and any other combination of interventions aimed at making the required changes in health behavior to be successful.

Green's Precede-Proceed model is relevant to this study because parties, discos, games, symposia, seminars and crusades characterize the life that youths consider to be of desirable quality. These functions facilitate interaction among youths of opposite sex. The temptation to engage in premarital sex is high and this may expose them to sexually transmitted diseases, HIV and AIDS included. To be able to change the behaviours that may expose youths to HIV and AIDS, predisposing factors are earmarked for change.

Both Holmes' (1965) problem-solving approach, Bandura's (1977) self-efficacy and social learning theory, Becker's (1964) health belief model and Green's precede-proceed model of health behaviour were relevant to this study, hence a combination of all the four was used. Accordingly, this study is based on the conceptual framework illustrated in figure 1.

### Conceptual Framework

The conceptual framework that was considered appropriate for this study is illustrated in figure 1.

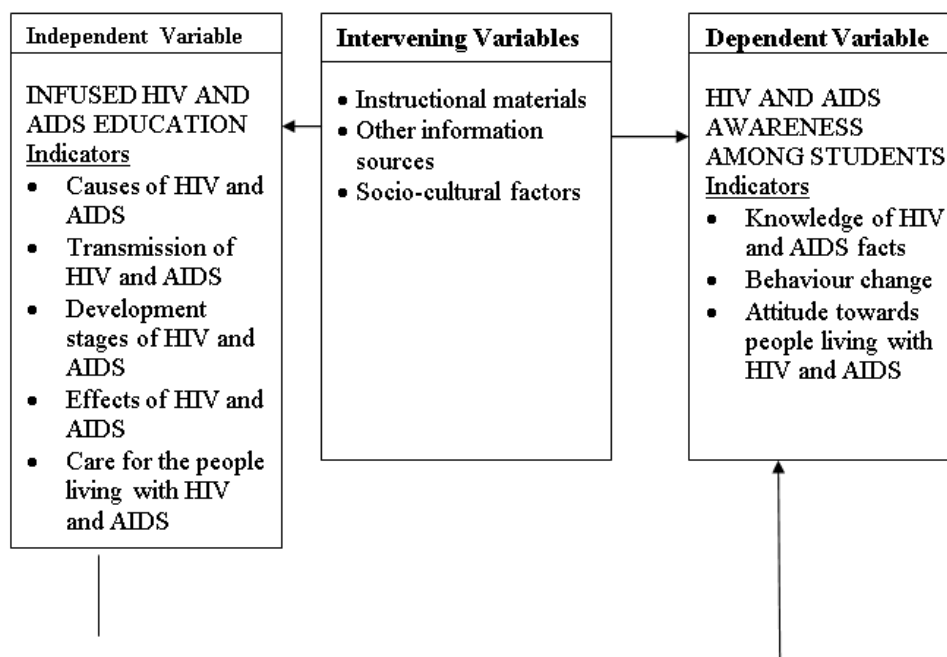


Figure 1: Conceptual framework showing relationship between infused HIV and AIDS education and students' awareness in Ainamoi and Sigowet divisions.



According to this conceptual framework, infused HIV and AIDS education is the independent variable. The main indicators of infused HIV and AIDS education are: causes of HIV and AIDS, methods of transmission of HIV and AIDS, the stages of development of HIV and AIDS, the effects of HIV and AIDS and how to care for the infected people.

These indicators constitute the main content of HIV and AIDS education. This conceptual framework supposes that the dependent variable (HIV and AIDS awareness among students) is influenced by the content of HIV and AIDS education which students are made to go through.

The level of successful infusion of HIV and AIDS education in the formal carrier subjects is expected to influence on HIV and AIDS awareness by enhancing mastery of facts on HIV and AIDS transmission and prevention, promoting students' positive attitude towards infected people and influencing desirable behavior change among students. Behavior change among students would be determined by their propensity to embrace preventive health practices such as abstinence, use of condoms, utilization of VCT services and not sharing sharp objects.

The conceptual model acknowledges the existence of intervening variables which could impede or enhance the desirable influence of infused HIV and AIDS education on students' awareness. These intervening variables include: teaching methods, instructional materials, other sources of HIV and AIDS education and socio-cultural beliefs and practices.

## METHODOLOGY

### Research Design

This study adopted a comparative design because the researcher sought to compare the influence of HIV and AIDS infused education on students in rural secondary schools vis-à-vis students in urban secondary schools. A comparative research design is applicable to studies where the researcher compares two selected groups on the dependent variable (Kombo and Tromp, 2006). In this case, a rural group and an urban group were compared. This study was a comparative assessment of the influence of infused HIV and AIDS education on HIV and AIDS awareness among students in a rural setting (Sigowet Division) and students in an urban setting (Ainamoi Division).

### Description of Study Area.

This study was carried out in Kericho county of Rift Valley region. The area was selected because it has not been a focus point for previous HIV and AIDS researchers, yet it is also affected. Kipkelion borders it to the north, Molo to the northeast, Nandi South to the northwest, and Bomet and Bureti to the south. It also borders Homabay and Nyamira County to the southwest and Nyando district to the west. Kericho County occupies a total area of 1125.1 km square. The county comprises of five divisions, namely: Ainamoi, Belgut, Sigowet, Soin and Kabianga. (ROK, 2008).

### Target Population

The target population for this study was students in public secondary schools in Ainamoi and Sigowet divisions of Kericho County. Public secondary schools in the county were fifty five with a total enrolment of 31,210 students. The public secondary schools in Ainamoi and Sigowet divisions had an enrollment of 8385 students and 5321 students respectively. The population of teachers in these two divisions was 589 (DEO, Kericho County, 2011). Students were identified as the suitable target population from which data would be collected because they are the recipients of HIV and AIDS education in the classroom. Teachers were considered unsuitable as they could not be expected to give a fair and truthful evaluation of themselves as facilitators.

The data for this study was obtained from form four students in Ainamoi and Sigowet divisions in Kericho County. This was done with the aim of dealing with intact groups during the administration of questionnaires. In this way school programmes were not disrupted. Students of form four were assessed to be appropriate respondents because of their longer interaction with teachers and syllabi. There were approximately 2840 form four students in these secondary schools. They constituted about 22% of total enrolment in all classes in secondary schools of the two divisions.

Table 2 Secondary School Students Enrolment and Teacher Establishment in Kericho County

Administrative Division	Total Enrolment	Teacher Establishment	Teacher: pupil ratio
Ainamoi	8385	354	1:21
Belgut	4118	206	1:20
Soin	4726	196	1:24
Sigowet	5321	235	1:23
Kabianga	5097	227	1:23
Total for County	31210	1292	1:23

Source: County Education Office, Kericho, 2011

### Sampling Procedure and Sample Size

Two samples were selected for this comparative study. One sample had to have urban characteristics and the other sample had to have rural characteristics. The sample of urban respondents was selected from secondary schools in Ainamoi Division. The rationale for selecting the urban sample from schools of Ainamoi division lay in the fact that Kericho town, its urban surrounding and the tea estates constitute an urban environment. In this urban setting, mobility and accessibility is high therefore the schools in this region were likely to receive more attention from quality assurance and standards officers in the Ministry of Education. Besides, the schools were likely to access a variety of HIV and AIDS information sources. Moreover, it is a cosmopolitan setting with minimal socio-cultural hindrances to straight-talk about HIV and AIDS.

In urban Ainamoi division there were two established girls boarding secondary schools and two established boys boarding secondary schools. There were also two mixed day public schools. All these schools were purposively selected into the study sample frame. In each pure girl's school, 20 girls were randomly selected from form 4 class as respondents. In each pure boy's school, 20 boys were randomly selected from a form 4 class as respondents. In each of the two mixed day schools, 10 girls and 10 boys were randomly selected from among form 4s as respondents.

This procedure ensured that the researcher had sixty(60) boys and sixty(60) girls as respondents from Ainamoi division, a total of 120 respondents. Ten respondents were also randomly selected for interviewing to complement questionnaire data. Pieces of paper written 'YES' and 'NO' were randomly given to students in a class. Those who picked 'YES' were selected for interview. The interviewees were 5 girls from a girls' school and 5 boys from a boys' school. Therefore, 10 respondents were interviewed in Ainamoi division.

The second sample, which had to be rural, was selected from schools in Sigowet division. In Sigowet division, all the secondary schools were mixed and therefore 10 boys and 10 girls were randomly selected from six purposely selected schools from a form 4 class. Therefore from each of the six selected mixed schools, 20 form 4 students were identified as respondents. In total, respondents from Sigowet division were 60 boys and 60 girls of form 4, a total of 120 respondents. Therefore, the sample size was 240 respondents representing about 10% of the form 4 student population. For interviewing purposes, 5 boys and 5 girls were randomly selected from two mixed schools making a total of 10 respondents who were interviewed in Sigowet division. The random selection of the respondents ensured that bias was minimized and the sample size remained representative.

Table 3

Administrative Division and Respective Student Sample Sizes

Administrative Division	No. of Schools Selected	Students selected per school	Total No. of students selected per division
Ainamoi	6	20	120
Sigowet	6	20	120
Total	12	40	240

### Instrumentation

A students' questionnaire was prepared to solicit data on knowledge level among students about ways in which HIV and AIDS spread, its level of prevalence, care for the infected and support for the affected, attitude of students towards people infected with HIV and AIDS virus and behaviour change among students with regard to sexuality. The questionnaire comprised of 26 items in total. Validity is the degree to which a test measures what it purports to measure (Borg and Gall, 1997). In this study the validity of instruments was enhanced through extensive consultations with supervisors, colleagues and other qualified people. An instrument is reliable when it can measure a variable accurately and consistently and obtain the same result under same conditions every time (Gitonga, 1999). Pre-testing was done for the questionnaires. The split-half method and Cronbach's reliability coefficient were calculated so that the instrument could be used with the acceptable degree of reliability. The split-half reliability co-efficient of 0.67 was obtained and it qualified the instruments as adequate for use (Selltiz, Wrightman & Cook, 1976; Kerlinger, 1983; Kathuri & Pals, 1993).

### Data Collection Procedure

Quantitative data for this study was collected from 240 form four respondents in 14 visited schools from a target population of approximately 2840 form fours during the September- October 2011 school session of third term, using a self-administered structured questionnaire. The data was collected by the researcher, who visited two schools per day. This ensured a high return rate of filled-in questionnaires and ensured consistency in instrument administration procedure.

Collected questionnaires were edited and coded. Items with YES/NO responses were scored as 2/1 respectively and the scores were counted as frequencies. The researcher grouped data from open-ended questionnaire items under broad themes and converted them into frequency counts. Items in section C were likert-scale type with 5-point response range. The responses were scored as Strongly Agree - 1; Agree - 2; Undecided - 3; Disagree - 4; Strongly Disagree -5. The higher the total score, the more positive the attitude towards HIV and AIDS infected people, and vice versa.

#### **Data Analysis**

Quantitative and qualitative data was collected. Quantitative data was presented using tables and comparative bar graphs. Qualitative data was presented as direct quotations. Descriptive and inferential statistical techniques were used to analyze quantitative data. Frequencies, percentages and chi-square techniques were used. Attitude measurement ratings were analyzed using the chi-square technique which is suitable in analyzing non-parametric, categorical and frequented data. It is a test for comparing variance. It also tests the significance of association between two attributes, in this case, the influence of the infused HIV and AIDS curriculum on student's awareness (Kothari, 1994). Thematic analysis was used to analyze qualitative data. Data was grouped and coded under themes and converted into frequency counts. The intensity and number of times an idea, word or description appeared was used to interpret its importance or emphasis. (Kombo&Tromp, 2006).

### **SUMMARY OF CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS**

#### **Summary of the Results**

The first objective of this study was to compare the influence of the infused HIV and AIDS education on student mastery of HIV and AIDS facts in Ainamoi and Sigowet divisions of Kericho County. Responses to five questionnaire items were separately analyzed and the findings were as summarized below:

In both Ainamoi and Sigowet divisions, more than 65% of the respondents identified unprotected sex and sharing of sharp unsterilized objects as the main causes of HIV and AIDS. Drug abuse and homosexuality were listed as causes of HIV and AIDS by 38% respondents in Sigowet and by 85% respondents in Ainamoi. Over 65% of respondents in Sigowet listed kissing as a cause of HIV and AIDS as compared to 28% in Ainamoi.

Heterosexual involvement was cited by 56% of respondents in Ainamoi compared to 68% in Sigowet as the most prominent cause of HIV and AIDS. However, a bigger proportion of Sigowet respondents (17%) listed drug abuse and kissing as prominent causes of HIV and AIDS, compared to 6% in Ainamoi.

Homosexual involvement was cited as the least prominent cause of HIV and AIDS by 22% of respondents in Ainamoi compared to 32% of respondents in Sigowet. On the other hand, 13% of respondents in Ainamoi cited kissing as the least prominent cause of HIV and AIDS compared to 6% in Sigowet.

Most respondents in both divisions cited loss of weight, diarrhea and skin infections as common signs and symptoms of HIV and AIDS. Appearance of herpes zoster seemed not to be known by many respondents as was revealed by less than 10% in both divisions identifying it.

The data that sought to determine the respondents' knowledge of the stages of development of HIV and AIDS showed that 61% of respondents in Ainamoi identified the blow-up stage correctly as opposed to 54% of respondents in Sigowet. The initial stage in HIV and AIDS development was also correctly identified by 93% of respondents in Ainamoi and 71% of Sigowet respondents. In Ainamoi only 6% of respondents correctly identified the condition of 'body begins to develop antibodies to fight the virus' as medial stage compared to 18% of respondents in Sigowet. In Sigowet, 52% of respondents erroneously indicated blow-up stage as the condition of 'infection signs begin to show' as compared to Ainamoi where 20% made a similar fault, but 60% got it accurately.

The second objective of the study was to compare influence of infused HIV and AIDS education on behaviour change among students in Ainamoi and Sigowet divisions in Kericho County. Data obtained on four relevant questionnaire items was analyzed and the findings included:

A higher proportion of respondents reported peer involvement in unprotected sex in Sigowet (53%) as compared to Ainamoi (50%). A chi-square analysis of the frequency data yielded a higher calculated value ( $X^2=20.74$ ) than the table value ( $X^2=7.815$ ) at 0.05 level of significance.

A higher proportion of respondents in Sigowet (63.3%) indicated that pregnancies were often or occasionally reported in school, compared to 47% of respondents in Ainamoi who gave similar sentiments. A chi-square analysis of the frequency data produced a higher calculated value ( $X^2=19.82$ ) than the table value ( $X^2=7.815$ ) at 0.95 level of significance.

Punishments associated with boy/girl relationships were reported to be occasional by 70% respondents in both Ainamoi and Sigowet. The responses to the effect that punishments related to boy/girl relationships were reported by 14.2% of Ainamoi respondents as compared to 15% of respondents in Sigowet. A chi-square analysis of this data produced a lower calculated value of  $X^2=6.44$  than the table value of  $X^2=7.815$

There was a higher incidence of condom use in Ainamoi (65%) than in Sigowet (25%). The accompanying chi-square analysis produced a calculated value ( $X^2=39.23$ ) which was higher than the table value ( $X^2=7.815$ ). Rural Sigowet had a higher proportion of respondents (48%) who reported that their peers had multiple sex partners as compared to urban Ainamoi (12%)

The third objective of this study was to compare the influence of infused HIV and AIDS education on students' attitudes towards HIV and AIDS infected people in Ainamoi and Sigowet divisions of Kericho County. Likert-scale statements solicited the relevant data. Responses to each statement were given numerical values and analyzed using the chi-square statistic. It was found that 53% of respondents in Ainamoi division had a negative attitude towards HIV and AIDS infected people compared to 69% in Sigowet division.

Respondents with positive attitude towards infected people were more in Ainamoi (37%) compared to Sigowet (19%). The respondents who were categorized as having a neutral attitude constituted 10% of all respondents in Ainamoi compared to 12% in Sigowet. A chi-square analysis of this data yielded a higher calculated value ( $X^2=9.104$ ) as compared to a lower table value ( $X^2=7.815$ ).

### Conclusions

This study sought to compare the influence of infused HIV and AIDS education on students' HIV and AIDS awareness in public secondary schools in Ainamoi and Sigowet divisions of Kericho County. Generally, the emerging picture was that the influence of the infused HIV and AIDS education on HIV and AIDS awareness is lower in rural schools as compared to urban schools.

Specifically, the level of mastery of HIV and AIDS facts was lower in rural schools and higher in urban schools, pointing to the differential influence of the infused HIV and AIDS education in urban areas compared to rural areas. A high level of ignorance about the place of homosexuality in the spread of HIV and AIDS was demonstrated for both the rural school and urban school respondents. There was near-equal knowledge of the visible signs and symptoms of HIV and AIDS such as loss of weight, incessant coughing, skin rashes and loss of hair. However ignorance about herpes zoster was clearly demonstrated among the rural respondents indicating that the influence of infused HIV and AIDS education was lower in rural schools than in the urban schools. There was a pervasive lack of knowledge of the development stages of HIV and AIDS in both rural school respondents and urban school respondents. The inability of respondents to accurately describe the features associated with each HIV and AIDS development stage was an indicator of how insignificantly the infused HIV and AIDS education had influenced on learners' knowledge of HIV and AIDS facts in schools.

The infused HIV and AIDS education had caused a higher level of positive behaviour change among urban school students than among rural school students. The reported higher proportion of peer involvement in unprotected sex in rural schools as compared to urban schools was a pointer to this conclusion. This was corroborated by arguments that HIV and AIDS awareness is more in urban areas than in rural areas and as a result, the urban population is more likely to embrace condom use than a rural population. A higher incidence of contraceptive use as well as development of an assertive personality to be able to say 'No' to male advances were expected among girls in urban schools than in rural schools. Consequently, even the incidence of teenage pregnancies was reported to be lower in urban schools as compared to rural schools. Generally, even a test of statistical significance indicated that there was a statistically significant difference in behaviour change between students of schools in urban Ainamoi and rural Sigowet division. Attitudes towards HIV and AIDS infected persons were positive in urban schools and negative in rural schools, and the differences were statistically significant.

### Recommendations

On the basis of findings, it has been argued in this thesis that infused HIV and AIDS education has not created the intended influence on students' grasp of HIV and AIDS facts, level of behaviour change and attitudes towards infected people equally in rural and urban areas. The study revealed that HIV and AIDS infused education does have a statistically significant influence on the differences in students' level of HIV and AIDS knowledge of facts, students' level of behaviour change and students' attitudes towards HIV and AIDS infected people.

It was on the basis of these findings of rural-urban imbalances regarding HIV and AIDS education that a number of policy recommendations are made. The policy recommendations include: revising the school curriculum to give HIV and AIDS education a distinct place, enriching co-curricular activities with issues of HIV and AIDS education, exposing students to field practicals to interact with people diagnosed with HIV and AIDS condition, improved facilitation and funding of rural school HIV and AIDS education programmes as well as organizing seminars and workshops on parental role in promoting HIV and AIDS awareness and reducing teenage irresponsible sexual behaviour.

#### Revising the Curriculum to give HIV and AIDS Education a Distinct Place

In this study 18% of respondents in Ainamoi suggested that separate HIV and AIDS education be implemented in schools compared to 37% in Sigowet. This recommendation is appropriate because it will enable teachers to purposely plan for adequate lesson content for each HIV and AIDS lesson. In addition, the teachers would have



adequate lesson time to employ a variety of pedagogical approaches to effective HIV and AIDS education dissemination. It is hoped that, ultimately, it is in this way that students will be able to acquire a superior mastery of HIV and AIDS knowledge and facts.

Infused HIV and AIDS education is ineffective because it lacks the specific guidelines of when and where it shall be tackled by the teacher; the infusion strategy gives the teacher the discretion to identify the infusion points. This leaves a loophole that teachers are more likely to use to ignore the teaching of HIV and AIDS education as they focus on completing the more academic sections of the syllabus.

#### **Enriching Co-curricular Activities with HIV and AIDS Education Content**

A variety of co-curricular activities may be used as alternative media for disseminating HIV and AIDS education. These include drama, role play and simulation, skits, organization of peer discussions at inter-class and inter-school levels, formation of 'Ni Poa Ku-chill' clubs as well as inviting resource persons to make presentations to students. These alternative strategies have great advantage over formal class work because they can carry bigger content load on HIV and AIDS per given time frame than the infusion strategy. They are enriched with a variety of activities that captivate the learner's attention, thereby increasing the rate of internalization of whatever is learnt. A higher level of HIV and AIDS education content retention among learners would translate to positive behaviour change.

#### **Exposing Students to Field Interactions with People Infected with HIV and AIDS**

The researcher also recommends that students be given opportunities to interact and share sentiments with openly confessed HIV and AIDS infected people. The learners will have the chance to ask questions that seek clarifications on issues that may not be clear to them. The interactions will go a long way to destroy stigma associated with HIV and AIDS. Learners will meet face to face with the fact that one can be HIV and AIDS positive and live a fulfilled life. Ultimately, this strategy is likely to improve students' attitudes towards infected people. It is recommended that students should regularly visit children's orphanages, visit infected people at home or in their hospital beds.

#### **Facilitation and Funding of HIV and AIDS Education in Rural Schools**

Infused HIV and AIDS education should not be relied upon as the only way to achieving awareness in schools. The strategy is highly presumptive that it will be implemented yet the reality on the ground shows that teachers are apathetic to the programme. A motivational strategy is needed to encourage teachers to give the HIV and AIDS content due attention. Rural areas are relatively inaccessible. The various programmes that may readily be reached by the urban learners may never reach the rural child. Rural areas are also negatively affected by cultural inhibitions to effective communication and transmission of HIV and AIDS education. There is need therefore to improve the facilitation and funding of formal, non-formal and community-based HIV and AIDS education programmes in rural areas.

#### **Organizing Seminars on Parental Role in Shaping Teenage Responsible Sexual Behaviour**

Studies have revealed that irresponsible sexual behaviour among teenagers is attributable to parental irresponsibility. Parents are accused of abandoning their obligation to correct, guide and facilitate their teenage children. Parents allow their teenage children to go out for parties without restrictions. They do not sit to talk, guide and counsel children. Furthermore, they fail to provide adequately to their children, especially girls, with body oils and sanitary towels. The alternative providers are boyfriends who ask for sexual favours in return. Workshops and seminars should therefore be organized for parents to sensitize them to the pivotal non-transferable role of parental responsibilities and guidance in assisting their school-going children to avoid risky sexual behaviours that may result in HIV and AIDS infection. The seminars should emphasize on provision of basics, to the boy-child and the girl-child equally, as an effective deterrent to irresponsible sexual behaviour.

#### **Suggestions for Further Research**

The researcher suggested further research in the following areas:

- i. A study should be carried out to investigate the impact of infused HIV/AIDS education on pupils' awareness in primary schools.
- ii. Qualitative studies need to be carried out to investigate teachers' problems and experiences as implementers of the infused HIV/AIDS education.
- iii. This study could be replicated in other parts of the country such as Nyanza, Coast and Central province since regional differences may produce different findings from what this study obtained.
- iv. A comparative study on boys' and girls' behaviour change due to infused HIV/AIDS education is also an area to be explored by researchers.

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